

# PATENT SPECIFICATION

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## (54) SUN SHIELD FOR SCREENING AUTOMOBILES

(71) We, LEWIS DAVID HRYTZAK, a Canadian citizen and CLIFFORD JOHN FORWARD, a British subject both residing at P.O. Box 138, 2 Benteng, Kuala Lumpur, Malaysia, do hereby declare the invention, for which we pray that a Patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a sun shield for screening automobiles.

The invention is concerned with providing means whereby the vehicle, whilst stationary, is shaded from the unpleasant and damaging effects of the sun's rays. Thus the interior of the vehicle is kept at a reasonable temperature, hence preventing discomfort of the vehicle occupants when the vehicle is entered, and possible damage to upholstery and expensive electrical equipment, such as radios, due to excessive heat.

Although useful in all countries of the world, it is anticipated that a sun shield will be found particularly useful in hot countries where the effect of the sun on parked vehicles is particularly noticeable.

In accordance with the present invention there is provided a sun shield for screening automobiles, said sun shield comprising a first telescopic rod which, in use, extends longitudinally along the automobile, and two further telescopic rods extending transversely across the first telescopic rod and fixedly attached thereto in spaced parallel relation to form a planar framework, a sheet of flexible screening material supported by said framework, support means attached to each end of each of said further telescopic rods for spacing the framework from the bodywork of the automobile, and means for detachably securing the framework on the bodywork.

In order to provide effective protection

from the heat of the sun, an air space must be left between the underside of the canopy formed by the screening material and the roof of the car to allow free circulation of air between roof and canopy.

The rods may be of tubular or channel cross section and may be made, for example, of chromed metal or aluminium.

When the device is not in use, the telescopic rods are retracted to their shortest length and the sun shield may then be conveniently stored in the boot of the automobile. The screening material is preferably attached to the framework by metal rings so that it can be removed prior to retracting the rods. The rings may be provided with locks to prevent theft.

It has been found that the sun shield of this invention need not necessarily be removed when the automobile is to be moved. It is stable and safe at normal city driving speeds, say of up to 40 m.p.h. This has obvious advantages for the motorist who wishes to make frequent stops whilst driving in a city.

In an embodiment of the invention, the support means comprises a plurality of legs respectively hinged to each end of each of said further telescopic rods, the legs having suction cups at their free ends for securement to the roof of the automobile. In an alternative embodiment the legs are spring biased away from the further telescopic rods so as to bear against the automobile roof. In this case, when the sun shield is not in use, the legs may be retracted and latched in the retracted position by means of a hook.

The legs should be such as to maintain a spacing of the canopy formed by the screening material above the automobile bodywork of six to eight inches.

In a preferred embodiment of the invention, the framework is shaped in the manner of a letter H, using three telescopic

rods rigidly connected together. The framework is placed on the car with the horizontal arm of the H, formed by the first telescopic rod, lying centrally of the automobile in a direction from front to back. For longer automobiles, the arm of the H may be extended beyond one or both of said further telescopic rods of the H by means of an additional rod or rods, which additional rod or rods each end in an additional transversely extending telescopic rod parallel with said further telescopic rods. The additional rod or rods may be telescopic or, preferably, they are hinged at a point along their length so that they can be folded up when the sun shield is out of use. Preferably such hinged rod or rods are made such that, in use, they extend downwards away from the plane of the H framework to roughly correspond with the angle of the rear window and/or windscreen of the automobile.

The securing means may comprise a plurality of straps respectively attached to each end of each of said further telescopic rods and which are each provided with a hook for attachment to the rain gutter of the automobile in a like manner to the attachment of luggage racks.

The outside of the screening material is preferably painted a light colour such as white, beige or silver in order that it reflects as much of the sun's heat away from the car as possible. Similarly the underside of the screening material may be black or another dark colour in order that any heat reflected from the pavement or other object is not reflected back onto the roof of the automobile.

In order to avoid theft of the device, it may be equipped with a flexible line, for example a chain or strap, having a ball attached at one end and being securely attached at the other end to one of the rods. The ball is inserted into the boot or under the bonnet of the car, when open, and is of such a size that, when the boot or bonnet is closed and locked, the ball is unable to be removed through the gap between the boot lid or bonnet and the automobile bodywork. The ball could also, of course, be put into the body of the car, through a door frame. Closure of the door will then lock the ball in the car and prevent its removal therefrom.

In order to provide shade for the side windows of the automobile, a preferred embodiment of the invention provides a pair of side screens which, during use, extend downwardly from the lateral edges of the screening material to cover or at least partially cover the side windows. Preferably the upper area of each said side screen, closest to the canopy formed by the screening material, is formed with an open

weave material so that air circulation between the canopy and roof of the automobile is not impeded. Alternatively, the upper area may be formed with a number of apertures to allow air circulation. The lower parts of the side screens are formed from the same material as the main part of the canopy. When the canopy is to be retracted, the side screens are folded up over the canopy and are thus folded up with the canopy.

In order that the invention may be better understood, an embodiment thereof will now be described by way of example only and with reference to the accompanying drawings in which:—

Figure 1 is a plan view of a sun shield according to the invention;

Figure 2 is a side view, and

Figure 3 is an enlarged view of one of the legs used for spacing the sun shield from the automobile bodywork.

Referring particularly to Figures 1 and 2, the sun shield comprises a planar H-shape framework made up of three telescopic rods 1, 2 and 3 fixedly attached to one another as shown. Each telescopic rod is made up of two tubes of aluminium, one of which is slidable within the other. In the embodiment illustrated, the sun shield is lengthened by means of two hinged rods 4 and 5. The rods 4 and 5 are each hinged at a point along their length and are cut so as to hang downwards (see Figure 2) to cover the rear window and windscreen of an automobile (not shown). The rods, 4, 5 end in two further telescopic rods 6, 7 respectively, of similar construction to rods 1, 2 and 3.

The framework formed by the rods 1 to 7 serves to support a flexible screening material 8 which is attached to the rods by means of lockable metal rings (not shown) to form a canopy for screening the car. The upper surface of the material is coloured white, or a similar light colour which will reflect the heat of the sun. The underside of the canopy is coloured with black or other dark colour to absorb heat reflected off the pavement or other object.

A strap 9 is attached to one of the rods 4, 5 and extends inside the boot of the automobile. At the free end of strap 9 a ball 10 is attached and this is large enough to prevent removal thereof from the boot whilst the boot is closed. The strap and ball thus act as a security device to prevent the sun shield being stolen.

The licence number of the automobile, or name of the owner may be indelibly stencilled or embossed onto the outer surface of the screening material so that it is prominently displayed. A discrepancy between the licence number on the canopy and that of the automobile to which the

canopy is attached would indicate that the sun shield had been stolen and thus discourage theft.

In order to provide shade for the side windows of the automobile, a pair of side screens 11 (only one of which is shown) may be provided. These side screens hang down from each of the lateral edges of the canopy in order to cover the side windows and hence protect the interior of the car from the sun's rays coming down at a slant. Each side screen comprises an upper part provided with a number of apertures 12 and a lower part of the same material as the canopy. The width of the upper part is dependent on the spacing between the canopy and the roof of the automobile, and is sized in order to ensure adequate air circulation of the space beneath the canopy.

The width of the whole side screen is such that it will hang down to the level of the door handles and thus provide shade for the whole of the side windows. Before folding the canopy up the side screens are folded up over the canopy, and are then folded up with the remainder of the canopy. In an alternative embodiment, the upper part of the side screens may be made from an open mesh material.

The sun shield is secured to the automobile bodywork by means of four straps (not shown) which extend from the ends of the rods 2 and 3 to hooks (also not shown) which are hooked over the rain gutter of the automobile.

At the ends of each of the rods 2 and 3 are provided legs 13 which in use extend downwards to bear against the roof of the automobile and thus ensure the spacing of the sun shield from the automobile bodywork which is essential to correct functioning of the device. If desired each leg may be provided at its lower end with a plastics cap or suction pad in order to prevent damage to paintwork. The construction of each of the legs 13 is best illustrated by reference to Figure 3.

Each leg comprises a hollow cylindrical housing 14 which is open at the bottom end and provided with a lip 15. The housing contains a coil spring 16 which acts against a lower leg portion 17 in order to bias the leg portion 17 downwards i.e. towards the bodywork of the automobile. The leg portion is provided at its upper end with a flange 18 which butts against lip 15 and prevents the leg portion 17 from leaving the housing 14. When the sun shield is not in use, the lower leg portion 17 is pushed upwardly into housing 14 where it is latched by means of a hook 19 hinged to the end of the respective rod.

#### WHAT WE CLAIM IS:—

1. A sun shield for screening

automobiles, said sun shield comprising a first telescopic rod which, in use, extends longitudinally along the automobile, and two further telescopic rods extending transversely across the first telescopic rod and fixedly attached thereto in spaced parallel relation to form a planar framework, a sheet of flexible screening material supported by said framework, support means attached to each end of each of said further telescopic rods for spacing the framework from the bodywork of the automobile, and means for detachably securing the framework on the bodywork.

2. A sun shield as claimed in claim 1 wherein the screening material is attached to the framework by means of metal rings.

3. A sun shield as claimed in claim 1 or 2, wherein the support means comprises a plurality of legs respectively hingedly connected to each end of each of said further telescopic rods so as to be extended away from the respective further rod during use to bear against the automobile bodywork.

4. A sun shield as claimed in claim 1 or 2 wherein the support means comprises a plurality of legs respectively attached to each end of each of said further telescopic rods, each leg comprising a telescopic rod having spring means normally biasing the rod into its extended position.

5. A sun shield as claimed in claim 4 further including means for latching said legs in the retracted position.

6. A sun shield as claimed in any of the preceding claims wherein the framework further comprises a rod hinged to one end of the first telescopic rod for extending the screening material over the windscreen or rear window of the automobile.

7. A sun shield as claimed in claim 6 including a further rod hinged to the other end of the first telescopic rod so that the screening material is able to extend over both the windscreen and rear window of the automobile.

8. A sun shield as claimed in either one of claims 6 or 7 wherein the or each hinged rod is arranged such that, at least for part of its length it will extend at an angle from the remainder of the framework in order to roughly correspond with the angle of the windscreen and/or rear window of the automobile.

9. A sun shield as claimed in any of the preceding claims wherein the securing means comprises a plurality of straps respectively attached to each end of each of said further telescopic rods and which are each provided with a hook for attachment to the rain gutter of the automobile.

10. A sun shield as claimed in any of claims 1 to 9 wherein the upper face of the

sheet of screening material is coloured with a light colour in order to reflect heat from the sun.

11. A sun shield as claimed in claim 10 wherein the upper face of the sheet of screening material is coloured white.

12. A sun shield as claimed in claim 10 wherein the upper face of the sheet of screening material is coloured silver.

13. A sun shield as claimed in any of claims 1 to 12 wherein the underface of the sheet of screening material is coloured with a dark colour in order that heat reflected from beneath the sheet is not reflected onto the roof of the automobile.

14. A sun shield as claimed in any of the preceding claims further comprising a flexible line attached at one end to one of the rods, and, at the other end, having a ball attached thereto, for placing in the automobile boot or under the automobile bonnet, the ball being sized so that, upon closure of the boot lid or bonnet, the ball cannot be removed through the gap between the boot lid or bonnet and the bodywork of the automobile.

15. A sun shield as claimed in any of the preceding claims further comprising a pair of side screens for shading the side windows of the automobile.

16. A sun shield as claimed in claim 14 wherein each said side screen comprises an upper area of open weave material which is attached to a lateral edge of the sheet of screening material and a lower area of screening material attached to the upper area which, during use, extends to cover or at least partially cover the side windows of the automobile.

17. A sun shield for screening automobiles substantially as hereinbefore described with reference to the accompanying drawings.

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COMPLETE SPECIFICATION

1 SHEET

This drawing is a reproduction of the Original on a reduced scale

FIG. 1

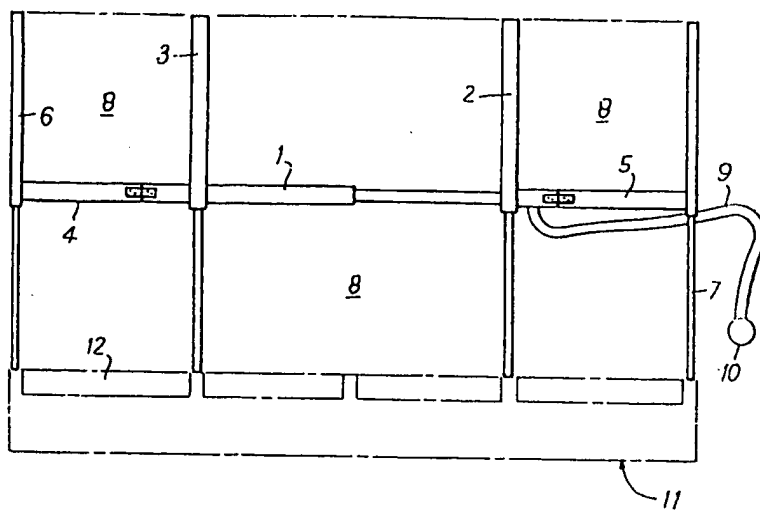


FIG. 2

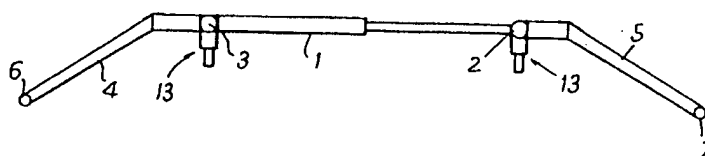


FIG. 3

